

Morton International

Morton Salt

December 20, 1993

Mr. D. Wayne Hedberg
Permit Supervisor
State of Utah, Department of
Natural Resources
Division of Oil, Gas and Mining
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RE: Notice of Intent to Conduct Large Mining
Operations, Morton International, Inc.,
Morton Salt Division - Grantsville, M/045/037
Tooele County, Utah

Dear Mr. Hedberg:

The following is provided in response to your letter dated
August 3, 1993.

R-647-4-105 Maps, Drawings & Photographs

105.2.11 Proposed Surface Facilities (AAG)

The correct name of the facility is Morton Salt-Grantsville. In the early stages of property acquisition and development "Burmester" was considered as a possible facility name. The two drawings, referred to in this question, were prepared prior to the facility name selection of "Grantsville" and were inappropriately labeled "Burmester". Morton Salt Division apologizes for any confusion this may have caused.

R-647-4-106 Operation Plan

106.6 Plan for Protecting & Redepositing Soils (HWS)

The soil ridges were formed as a result of the former owner's attempt to improve the appearance of the facility entrance road. The surface soil on each side of the entrance road was pushed back (away from the road) approximately 200 feet forming two low



soil ridges. The location of each ridge is marked on Enclosure 1 (Grantsville Plant Site Map). Each ridge is approximately 500 feet long and varies between 2 and 3 feet high. We have estimated 30 tons of soil per ridge.

Enclosure 2 (Soil Ridge Photos A&B) consists of a photo of each ridge from a roadside view. The surface areas between the road and ridges have become revegetated through natural processes as evident by Photos A and B of Enclosure 2. Each ridge has experienced some degree of revegetation as well.

The Grantsville facility is prepared to level both ridges at DOGM's direction, however, any such action would destroy the interim protective vegetation that has developed and once again expose the top soil in this area. Our recommendation is to leave the soil ridges in place so as not to disturb the interim vegetation cover. The ridges will be leveled at final reclamation.

106.7 Existing Vegetation - Species and Amount (HWS)

Enclosure 3 (Grantsville Operation - Reference Area Vegetation Survey 1993) identifies the predominant plant species and the cover values observed in the undisturbed vegetation reference area. The survey includes the methodology used to determine these values.

R-647-4-107 Operation Practices

107.3 Erosion Control & Sediment Control (DWH)

The Grantsville facility's Stormwater Pollution Prevention Plan was forwarded to DOGM as Enclosure 1 of Morton Salt Division's letter dated August 10, 1993.

R-647-4-109 Impact Assessment

109.1 Impacts to Surface & Groundwater Systems (DWH)

DOGM has deferred to the Division of Water Quality's permitting requirements to satisfy the information under this rule. No response was requested of Morton.

R-647-4-110 Reclamation Plan

110.1 Current & Postmining Land Use (HWS)

Prior to development by the previous owners, the land was predominately lake bed playa. Upon cessation of mining it is reasonable to assume the land would have very limited industrial, commercial, agricultural, or residential uses. Postmine land use would be best categorized as wildlife habitat associated with lake bed playa.

110.3 Description of Facilities to be Left (AAG)

DOGM has accepted Morton's offer to breach the outer dike at the time of final reclamation if the state/county does not wish to retain and maintain it. No response was requested of Morton.

110.5 Revegetation Planting Program (HWS)

Morton Salt-Grantsville acquired the services of an experienced contractor, K. A. Smith Consulting, to perform a vegetation survey. The completed survey is provided as Enclosure 3 (Grantsville Operation - Reference Area Vegetation Survey 1993).

R-647-4-112 Variance

Morton Salt Division understands the variance requested for the Stansbury Island Road and outer dike is acceptable to DOGM. All areas other than the area designated as "Reclamation Site Map" on Enclosure 4 of Morton Salt Division's letter dated March 29, 1993 will receive a variance for revegetation.

R-647-4-113 Surety

The completed Reclamation Contract (Form MR-RC) with surety bond is provided as Enclosure 4.

If you have any questions please call me at 312/807-2673.

Please respond in writing if this submittal is satisfactory.

Sincerely,

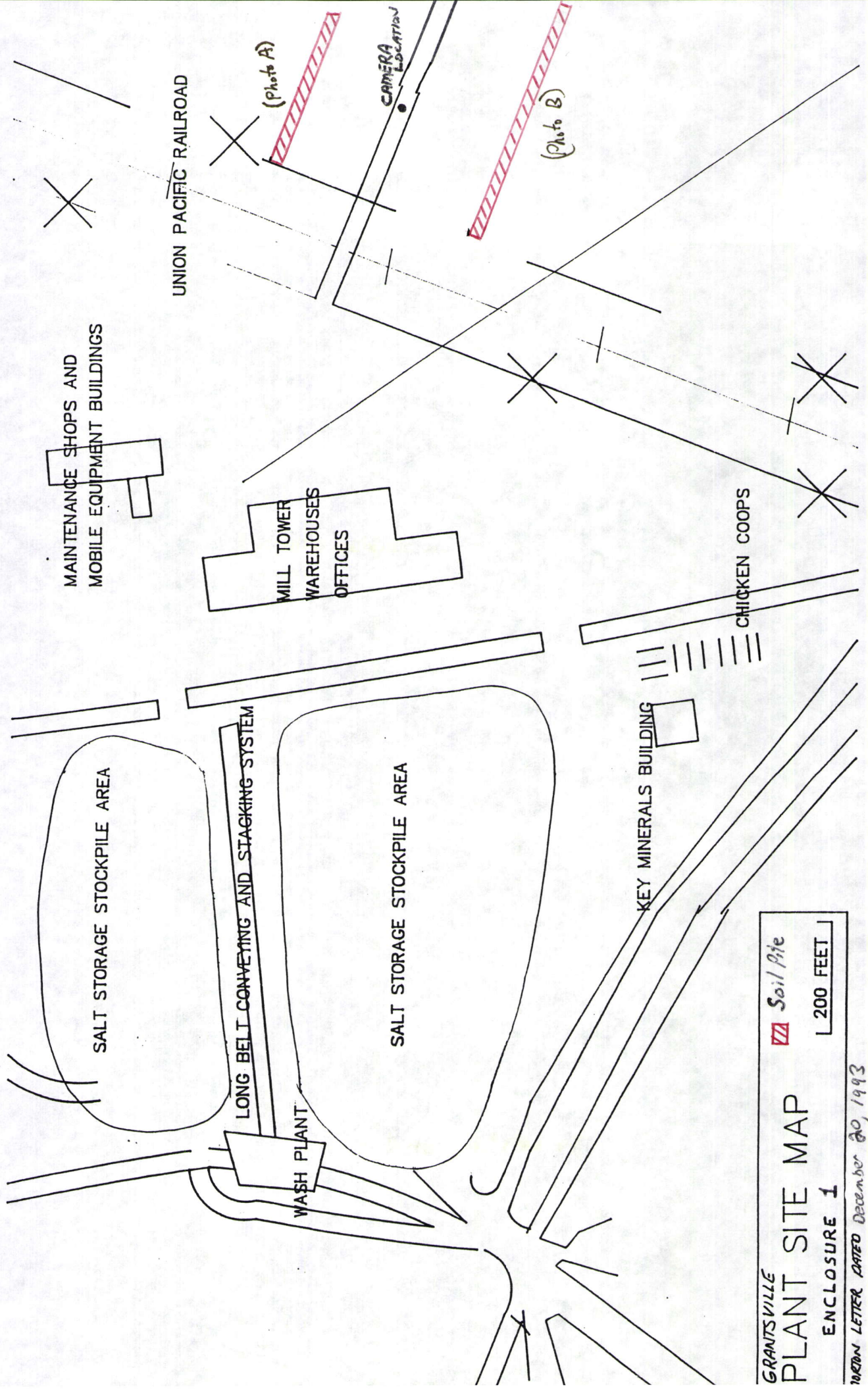


T. D. Anders
Environmental Affairs Specialist

TDA/cep
102693

cc: G. C. Price-Grantsville

- Enclosures
- (1) Grantsville Plant Site Map
 - (2) Soil Ridge Photos
 - (3) Grantsville Operation-Reference Area Vegetation Survey 1993
 - (4) Reclamation Contract (Form MR-RC) with attachments "A" (Disturbed Area) and "B" (Surety Bond)



GRANTSVILLE
PLANT SITE MAP
 ENCLOSURE 1
 200 FEET

NOTION LETTER DATED December 20, 1993

DEGM RECEIVED 12-23-93

PHOTO A



Grantsville entrance road view of ridges

(Sept 10, 1993)

PHOTO B



Grantsville entrance road view of ridges

(Sept 10, 1993)

Enclosure 2
(Morton letter dated
20 Dec. 93)
Soil Ridge Photos

Enclosure 3

Morton International letter dated
20 Dec. 93

**MORTON SALT
TOOELE COUNTY, UTAH**

**REFERENCE AREA VEGETATION SURVEY
1993**

FOR
- COMPLETE COPY -
SEE POCKET IN
PLAN BINDER

Prepared for

**Morton International, Inc.
Morton Salt Division, Grantsville Operations
P.O. Box 506
Grantsville, UT 84029-0506**



**K.A. Smith Consulting
P.O. Box 521107
Salt Lake City, UT 84152
(801) 484-4704**

**MORTON SALT
TOOELE COUNTY, UTAH**

**REFERENCE AREA VEGETATION SURVEY
1993**

DEC 23 1995

DEPT. OF
OIL, GAS & MINING

Prepared for

**Morton International, Inc.
Morton Salt Division, Grantsville Operations
P.O. Box 506
Grantsville, UT 84029-0506**

by

**K.A. Smith Consulting
P.O. Box 521107
Salt Lake City, UT 84152
(801) 484-4704**

October 1993

ABSTRACT

The following reference area vegetation survey was conducted for Morton International, Inc., Morton Salt Division, Grantsville Operations, Tooele County, Utah to fulfill the permit application requirements of Minerals Rule R647-4-106.7 (State of Utah, Department of Natural Resources, Division of Oil, Gas and Mining, ltr. 8/3/93). Minerals Rule R647-4-106.7 specifies a plant survey of an undisturbed reference area be conducted to identify the predominate plant species and cover values to assist the Division of Oil, Gas and Mining in preparing a recommended reclamation seed mixture for Morton Salt.

This report includes a description of the field sampling methods implemented and presents the results of the reference area vegetation survey. Nested frequency and cover class methods were implemented to survey the reference area vegetation.

Results of the plant survey indicate the reference area is a black greasewood (*Sarcobatus vermiculatus*)/shadscale saltbush (*Atriplex confertifolia*) community type. Total vegetation cover is 33.1% with perennial species comprising 12.2% while annual weedy species comprise 20.9%. Predominant perennial species include black greasewood 9.1%, shadscale saltbush 0.2%, prickly pear cactus (*Optunia* spp.) 2.1%, and Sandberg bluegrass (*Poa secunda*) 0.8%. Annual weedy species include clasping pepperweed (*Lepidium perfoliatum*) 8.6%, downy brome (*Bromus tectorum*) 6.0%, Japanese brome (*Bromus japonicus*) 2.5%, kochia (*Kochia scoparia*) 2.0%, and Russian thistle (*Salsola kali*) 1.8%. Litter cover averaged 47.9%. Minimal rock/gravel is present.

TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT	i
INTRODUCTION	1
METHODS	1
Establishing Baseline/Transects and Qaudrat Locations	3
Nested Frequency Methodology	3
Vegetation Cover Methodology	4
Data Computation	4
Percent Cover	4
Percent Frequency	4
RESULTS AND DISCUSSION	5
REFERENCES	9
APPENDIX A - Field Data Forms	A

LIST OF EXHIBITS

Exhibit 1. Morton Salt, Tooele County Facility and Reference Area Location	2
Exhibit 2. Morton Salt Reference Area Vegetation Community Type (Black Greasewood/Shadscale Saltbush), View N	7
Exhibit 3. Greasewood/Shadscale Community Type Herbaceous Groundcover	8
Exhibit 4. Alkali/Mud Flat Iodine Bush/Pickleweed Community Type	8

LIST OF TABLES

Table 1. Morton Salt, Tooele County Reference Area Vegetation Cover and Frequency Data	6
---	---

RESULTS AND DISCUSSION

Results of the reference area vegetation survey are summarized in Table 1. Field data forms are included in Appendix A.

The undisturbed reference area is a black greasewood (*Sarcobatus vermiculatus*)/shadscale saltbush (*Atriplex confertifolia*) community type (Exhibit 2). Total vegetation cover is 33.1% with perennial species comprising 12.2% while annual weedy species comprise 20.9%. Predominant perennial species include black greasewood (*Sarcobatus vermiculatus*) 9.1%, shadscale saltbush (*Atriplex confertifolia*) 0.2%, prickly pear cactus (*Opuntia* spp.) 2.1%, and Sandberg bluegrass (*Poa secunda*) 0.8%. Annual weedy species include clasping pepperweed (*Lepidium perfoliatum*) 8.6%, downy brome (*Bromus tectorum*) 6.0%, Japanese brome (*Bromus japonicus*) 2.5%, kochia (*Kochia scoparia*) 2.0%, and Russian thistle (*Salsola kali*) 1.8%. Other species observed in the reference area include Gardner saltbush (*Atriplex gardneri*), bush seepweed (*Suaeda torreyana*), foxtail barley (*Hordeum jubatum*), and prickly lettuce (*Lappula serriola*). Litter cover averaged 47.9%. Cryptogamic crust groundcover is included as litter cover. Minimal rock/gravel is present. The herbaceous groundcover typical of the reference area is shown in Exhibit 3.

Visual observation of the alkali/mud flat east of the reference area indicates iodine bush (*Allenrolfea occidentalis*), pickleweed (*Salicornia* spp.), and desert saltgrass (*Distichlis spicata*) comprise the predominant species (Exhibit 4). This vegetation community type was not intensively sampled.

Vegetation species observed along revegetated roadside shoulders just west of the Morton Salt facilities which may be useful in a recommended seed mixture include common reclamation species such as alkali sacaton (*Sporobolus aeroides*), alkaligrass (*Puccinellia nuttali*), indian ricegrass (*Oryzopsis hymenoides*), tall wheatgrass (*Elymus elongatum*), and rabbitbrush (*Chrysothamnus nauseosus*). Due to the high salinity/alkalinity of the area soils it is questionable whether these species will persist over time.

Enclosure 4: Morton letter dated December 30, 1993

ORIGINAL DOCUMENTS
SENT TO BOND FILE

FORM MR-RC
Revised May 28, 1993
RECLAMATION CONTRACT

File Number _____

Effective Date _____

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION of OIL, GAS and MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
(801) 538-5340

RECLAMATION CONTRACT

---00000---

For the purpose of this RECLAMATION CONTRACT the terms below are defined as follows:

"NOTICE OF INTENTION" (NOI): (File No.) (Mineral Mined)	<u>Solar Salt (NaCl) from the Great Salt Lake</u>
"MINE LOCATION": (Name of Mine) (Description)	<u>Morton Salt - Grantsville</u> <u>The facility is located in Tooele</u> <u>county approximately 30 miles west</u> <u>of Salt Lake City.</u>
"DISTURBED AREA": (Disturbed Acres) (Legal Description)	<u>7,849 acres</u> <u>(refer to Attachment "A")</u>
"OPERATOR": (Company or Name) (Address)	<u>Morton International Inc.; Morton Salt</u> <u>100 North Riverside Plaza</u> <u>Chicago, IL 60606-1597</u>
(Phone)	<u>(312) 807-2000</u>

"OPERATOR'S REGISTERED AGENT":

(Name)

(Address)

(Phone)

Fabian & Clendenin

215 South State Street

P.O. Box 510210

Salt Lake City, Utah 84151

(801) 531-8900

"OPERATOR'S OFFICER(S)":

Walter W. Becky-President Salt Group
Gene L. Decker-Vice President Production/
Engineering Salt Group

"SURETY":

(Form of Surety - Attachment B)

Surety Bond

"SURETY COMPANY":

(Name, Policy or Acct. No.)

Safeco Insurance Company of America
Bond No. _____

"SURETY AMOUNT":

(Escalated Dollars)

\$1,273,000

"ESCALATION YEAR":

1998

"STATE":

"DIVISION":

"BOARD":

State of Utah

Division of Oil, Gas and Mining

Board of Oil, Gas and Mining

ATTACHMENTS:

A **"DISTURBED AREA":** Morton International Inc., Morton Salt-Grantsville

B **"SURETY":** Bond Number

This Reclamation Contract (hereinafter referred to as "Contract") is entered into between Morton International Inc. the "Operator" and the Utah State Board of Oil, Gas and Mining ("Board").

WHEREAS, Operator desires to conduct mining operations under Notice of Intention (NOI) File No. _____ which has been approved by the Utah State Division of Oil, Gas and Mining "Division" under the Utah Mined Land Reclamation Act, Sections 40-8-1 et seq., Utah Code Annotated, (1953, as amended) (hereinafter referred to as "Act") and implementing rules; and

WHEREAS, Operator is obligated to reclaim that area described as the Disturbed Area as set forth and in accordance with Operator's approved Reclamation Plan, and Operator is obligated to provide surety in form and amount approved by the Board, to assure reclamation of the Disturbed Area.